

April 7, 2011

Waste Management of Hawaii
Waimanalo Gulch Sanitary Landfill
92-460 Farrington Highway
Kapolei, Hawai'i 96707

Attention: Mr. Joe Whelan

Subject: Cell E6 Sump Damage Assessment, Waimanalo Gulch Sanitary Landfill, Kapolei, HI

Dear Mr. Whelan:

1.0 INTRODUCTION

This letter documents a damage assessment of the sump area at the municipal solid waste (MSW) Cell E6 at the Waimanalo Gulch Sanitary Landfill (VGSL) in Kapolei, Hawai'i. A series of storm events occurring in late December 2010 through mid-January 2011 resulted in high surface runoff flows that flooded MSW Cell E6 and damaged portions of the liner system.

2.0 DAMAGE ASSESSMENT

As documented in AECOM's Liner Damage Assessment Report dated April 1, 2011, only a small portion of the southern sideslope liner area was damaged; no damage to the liner was observed in the area of the leachate riser pipes.

Stormwater, mud and sediment were removed to expose the sump riser pipes by Waste Management of Hawaii's (WMH) contractor, Goodfellow Brothers, Inc., in February 2011. Based on visual inspection performed after the mud was removed, no significant damage to the 24-inch diameter, high density polyethylene (HDPE) leachate collection and removal system (LCRS) riser pipe, or the 18-inch diameter, HDPE LCRS gas riser pipe was observed. Both risers and blind flanges were observed to be intact and in the same location as prior to the storm events.

Additionally, based on discussions with WMH personnel and site observations, the sump pump is currently functioning as designed. The sump power and control panel were removed from the low lying area adjacent to the sump risers just prior to the area being flooded and were reinstalled by Pacific Electro-Mechanical, Inc. in late February 2011. The pump is controlled by either a submersible transducer or a bubbler device via a switch on the pump control panel. Due to the flooding and water ponding above the end of the risers, the submersible transducer was shorted out and became non-functional. Therefore, the bubbler has been controlling the pump start/stop automatically since the pump was brought back online. In order to replace the transducer, the pump would need to be pulled. Since the pump has been otherwise functional and performing its intended job, WMH did not want to incur any unnecessary downtime that would result from the repair work. The transducer will be replaced in the next few days when the HDPE risers are extended vertically as part of the

current West Berm construction activities. This work will require temporary removal of the pump and pump controls so that additional pipe length can be welded on to the existing riser pipes.

AECOM personnel sampled the leachate on March 1, 2011 soon after the sump pump was reenergized. The leachate was observed to be clear and free of any sediment indicating that the LCRS gravel layer and overlying geotextile filter layer in the bottom of the sump are functioning as designed.

3.0 CONCLUSIONS

As required by the WGSL's current solid waste permit condition, Part II, Section A.13.c on page 12:

"The permittee(s) shall assess, monitor, and maintain the landfill after emergencies that may affect the integrity of the landfill, including, but not limited to, the liner system, leachate collection and control system, surface water management system, and any other affected portions of the landfill. If the acceptance and disposal of waste ceases, the permittee(s) shall submit a written evaluation of whether waste acceptance can resume. The evaluation shall be prepared by a professional engineer registered in the State of Hawaii and the Site Manager, certifying that the landfill and its associated environmental controls are functional, equivalent, or better than required, and that operation of the landfill will not cause a violation of environmental regulations. The evaluation should also include a description of any findings and corrective actions."

A landfill Storm Damage Evaluation Report and certification that MSW could be placed in designated areas was submitted to DOH via e-mail on January 27, 2011 but specifically excluded the sump and related controls in MSW Cell E6 since they were submerged.

Therefore, based on recent observations and discussions with WMH personnel described in previous sections, this letter certifies that the landfill MSW Cell E6 sump, sump riser pipes, sump pump, and its associated environmental controls are considered functional, equivalent or better than required, and that continued operation of the landfill will not cause a violation of environmental regulations. The pump transducer should be replaced as part of the riser extension work.

If you have any questions please call me at (808) 356-5321.

Sincerely yours,



Ronald E. Boyle, P.E. (No. 8431-C)
Project Manager/CQA Officer
AECOM Technical Services, Inc.



Concurrence by Site Manager:

Joe Whelan
General Manager
Waste Management of Hawaii, Inc

Cc: Jesse Frey

